



- Do not use the equipment if there is any mechanical damage.
- Ensure that the equipment is supplied with correct voltage.

**⚠ CAUTION :**

1. Read complete instructions prior to installation and operation of the unit.
2. Risk of electric shock.
3. The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, oils, steam, or other unwanted process by products.

**SPECIFICATIONS**

<b>Display</b>	: 4 Digit, 7 Segment LED Display, 0.56 inch digit height
<b>Wiring Input</b>	: 1 Ø - 2 wire
<b>Over Range / Under</b>	: "Ovfr" (Over 65Hz)
<b>Range Indication</b>	: "Ur" (Under 45Hz)
<b>Resolution</b>	: 0.01Hz
<b>Input Measurement</b>	
<b>Range</b>	: 45-65Hz
<b>Accuracy</b>	: ± 0.05Hz
<b>Measuring / Supply Voltage</b>	: 240V AC(± 20%), 45-65Hz 110V AC(± 20%), 45-65Hz
<b>Power Consumption</b>	: 5VA max.
<b>Environmental Conditions</b>	
Temperature	: Operating : -10°C to 55°C Storage : -20°C to 75°C
Humidity	: Up to 95% RH(non condensing)
Altitude	: Up to 2000 meters
Pollution degree	: II
<b>Installation Category</b>	: II (300V)
<b>Mounting</b>	: Panel Mounting
<b>Protection Class</b>	: II
<b>Weight</b>	: MF16 : 170gms MF216 : 180gms MF316 : 180gms

**WIRING GUIDELINES**

**⚠ WARNING :**

1. To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement.
2. Wiring shall be done strictly according to the terminal layout. Confirm that all connections are correct.
3. Use lugged terminals.
4. To reduce electromagnetic interference use of wires with adequate ratings and twists of the same in equal size shall be made with shortest connections.
5. Layout of connecting cables shall be away from any internal EMI source.
6. Cable used for connection to power source, must have a cross section of 0.5mm<sup>2</sup> to 2.5mm<sup>2</sup> (20 to 14AWG ; 75°C (min)). These wires shall have current carrying capacity of 6A.
7. Copper cable should be used (Stranded or Single core cable).
8. Before attempting work on device, ensure absence of voltages using appropriate voltage detection device.

**ORDER CODE INFORMATION**

Product	Supply	Certification	
		CE	cULus LISTED
<b>MF16</b>	240V AC (±20%), 50 / 60Hz	—	—
<b>MF16-110V</b>	110V AC (±20%), 60Hz	—	—
<b>MF16-CU</b>	240V AC (±20%), 50 / 60Hz	■	■
<b>MF16-110V-CU</b>	110V AC (±20%), 60Hz	■	■
<b>MF216</b>	240V AC (±20%), 50 / 60Hz	—	—
<b>MF316</b>	240V AC (±20%), 50 / 60Hz	—	—
<b>MF316-110V</b>	110V AC (±20%), 60Hz	—	—

**INSTALLATION GUIDELINES**

**⚠ CAUTION :**

1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Conductors must not come in contact with the internal circuitry of the equipment or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between power source and supply terminals to facilitate power 'ON' or 'OFF' function. However this switch or breaker must be installed in a convenient position normally accessible to the operator.
4. Before disconnecting the secondary of the external current transformer from the equipment, make sure that the current transformer is short circuited to avoid risk of electrical shock and injury.
5. The equipment shall not be installed in environmental conditions other than those mentioned in this manual.
6. The equipment does not have a built-in-type fuse. Installation of external fuse of rating 275V AC / 0.5Amp for electrical circuitry / battery is highly recommended.

**SAFETY PRECAUTIONS**

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

## MECHANICAL INSTALLATION

For installing the meter

1. Prepare the panel cutout with proper dimensions as shown below.
2. Push the meter into the panel cutout. Secure the meter in its place by pushing the clamp on the rear side. The clamps must be secured in diagonally opposite slots.
3. For proper sealing, tighten the screws evenly with required torque.

Terminal screw tightening torque :

0.68 N-m to 0.79 N-m (6.018 In-Lb to 6.992 In-Lb)

Screw clamp tightening torque : 0.1N-m (0.885 Lb-inch)

	Outline Dimensions (in mm)	Panel cutout
MF16		
MF316		
MF216		

## MAINTENANCE

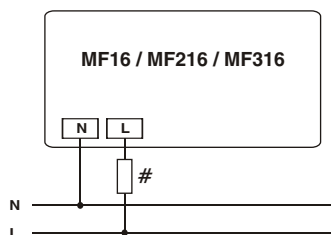
1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Clean the equipment with a clean dry or damp cloth. Do not use any cleaning agent other than water.

## TERMINAL CONNECTIONS



MF16 / MF216 / MF316

## WIRING DIAGRAM



# All fuse types : 0.5A class CC UL type ; 0.5A fast acting 600V

(Specifications subject to change as development is a continuous process.)

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